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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/618,712 | 07/15/2003 | Satoshi Torii | 030842 | 4931 |
| 38834 | 7590 | 11/19/2004 | EXAMINER | |
| WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036 | | | HO, HOAI V | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2818 | |

DATE MAILED: 11/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/618,712 | TORII, SATOSHI |
| | Examiner Hoai V. Ho | Art Unit 2818 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 October 2004.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1 and 7-10 is/are rejected.
 7) Claim(s) 2-6 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 15 July 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 7/15/03.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____

1. This office acknowledges receipt of the following items from the Applicant:

Information Disclosure Statement (IDS) was considered.

Papers submitted under 35 U.S.C. 119(a)-(d) have been placed of record in the file.

2. Claims 1-10 are presented for examination.

Election/Restriction

3. Claims 11-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Election was made **without** traverse dated on October 14, 2004.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ninomiya U. S. Patent No. 5617359.

Figure 6 of Ninomiya is directed to a nonvolatile semiconductor memory comprising: a nonvolatile memory cell (fig. 3) for storing a charge in response to data; and a memory cell driving portion for driving the memory cell; wherein the memory cell driving portion executes a first decision process of deciding pass/fail of the data that is read from the memory cell under a first deciding condition (PHASE 1) and then applying a signal (ST11) to the memory cell that is decided as fail to change an amount of charge stored in the memory cell, and a second decision

(PHASE 2) process of deciding the pass/fail of the data that is read (ST17) from the memory cell under a second deciding condition that is relaxed rather than the first deciding condition.

6. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Shin U. S. Patent No. 6076138.

Figure 5 of Shin is directed to a nonvolatile semiconductor memory operating method of executing data writing or data erasing in a nonvolatile memory cell (fig. 4B) while verifying a data of the nonvolatile memory cell, comprising: a first decision process of reading (205) the data from the memory cell under a first deciding condition to decide pass/fail, and applying a signal (203) to the memory cell to change an amount of charge stored in the memory cell if the data is decided as fail; and a second decision (210) process of reading the data from the memory cell under a second deciding condition, which is relaxed rather than the first deciding condition, to decide the pass/fail (216); wherein processes are repeated from the first decision process when the data is decided as fail in the second decision process.

Claim Rejections - 35 USC §103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin U. S. Patent (USP) No. 6076138 in view of Satoh et al. U. S. Patent No. 6493265.

Shin discloses all the subject matter claimed except for silence wherein the memory cell is a memory cell that corresponds to multiple levels, and the first deciding condition and the second deciding condition are set individually every level. However, Figures 12, 20A-20C of Satoh disclose wherein the memory cell is a memory cell that corresponds to multiple levels (00, 01, 10 and 11), and the first deciding condition and the second deciding condition are set individually every level (fig. 20B). It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Shin's nonvolatile memory which utilizes the multiple levels as taught by Satoh in order to have a number of different read-out potentials for determining the multi-bit data (abstract).

9. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Seki et al. (USP 6438036), Matsubara et al. (USP 5844843) and Anami (USP 5784318) disclose a nonvolatile memory device.

Allowable Subject matter

10. Claims 2-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

Claims 2-6 include allowable subject matter since the prior art made of record and considered pertinent to the applicant's disclosure, taken individually or in combination, does not teach or suggest the claimed invention having a reference voltage or current in the first decision process is different from a reference voltage or current employed in the second decision process.

12. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

13. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai V. Ho whose telephone number is (571) 272-1777. The examiner can normally be reached on 7:00 AM -- 5:30 PM from Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


hvh
November 15, 2004


Hoai V. Ho
Primary Examiner
Art Unit 2818